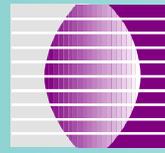


# NDIR Chemical Agent Detector



**Ion Optics, Inc.**

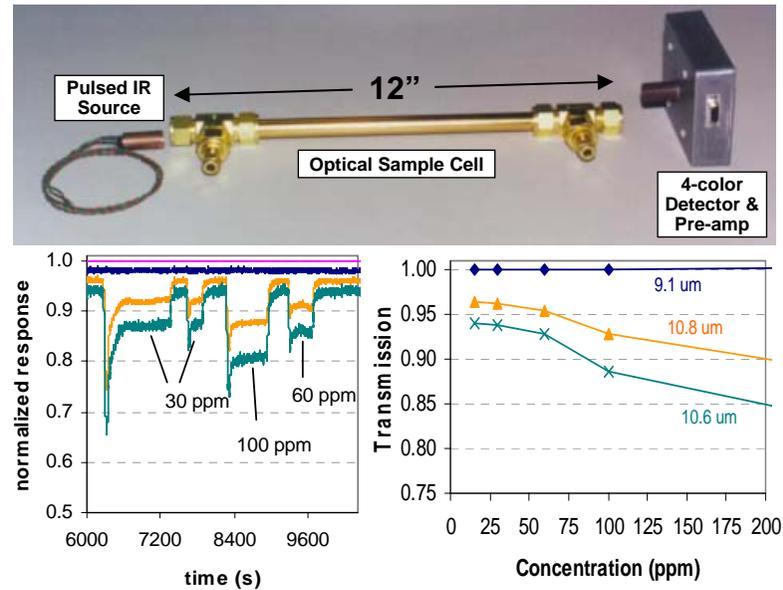
Date Revised: 16 JAN 04

## VENDOR DESCRIPTION

Ion Optics has demonstrated this NDIR (infrared) gas sensor designed for nerve agents sarin, soman and tabun as part of a SBIR phase one effort. It operates by measuring the optical absorbance of these chemicals at LWIR wavelengths.

Using simulants R12 and SF<sub>6</sub>, we demonstrated sensitivity down to 3 ppm with a 1-second response time. With improvements, this can be increased to 1 ppm.

The sensor is compact, rugged, lightweight and low-cost. It is inexpensive enough to be considered expendable.



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Business Category: Small Business

CAD

Hardware	
Power: 1.5 watts peak, 0.5 watts average	Operating Altitude: 0 ft to 20,000 ft AGL
Weight: 0.5 kg	Operating Speed: 0 knots to 400 knots
Dimensions: 500mm x 75mm x 25mm	Operating Temp.: -10°C to 50°C
Internal Volume: 24 in <sup>3</sup>	Storage Temp.: -40°C to 75°C
On Board storage capacity to handle 12 hours on station	Interface: 0-5 VDC
Sensor Type: Infrared	MTBOMF: TBD
Internal Permanent Archive on Information: No	MTTR: TBD
Concentration Level: 2 mg/m <sup>3</sup>	Maintainability: 2-level BIT to LRM level

Performance
Completes 90% of the Missions it starts w/out experiencing a mission abort
Sensor Hardened to Mitigate Damaging effect from EMP – Yes
Sensor Hardened to Eliminate Damaging effect from EMP – No
Provide detection of nerve agents sarin, soman and tabun vapors as well as mustard gas. Can also be used to monitor other gases like volatile organics.